



Australian Government

Department of Education, Employment and Workplace Relations

TLIB2091A Measure and record track geometry

Release: 1

TLIB2091A Measure and record track geometry

Modification History

Not Applicable

Unit Descriptor

Unit Descriptor

This unit involves the skills and knowledge required to measure and record track geometry in accordance with safeworking and regulatory requirements and workplace procedures. It includes measuring and recording track geometry, and reporting results. Licensing or certification requirements are not applicable to this unit.

Application of the Unit

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Persons achieving competence in this unit will need to fulfil the applicable legislated rail safety requirements including acts and regulations from each state and territory together with any nationally approved compliance codes and/or guidelines.

Work is performed under minimal supervision, generally within a team environment. It involves the application of routine operational principles and procedures to measure and record track geometry across a variety of operational contexts within the Australian rail system.

Licensing/Regulatory Information

Refer to Unit Descriptor

Pre-Requisites

Not Applicable

Employability Skills Information

Employability Skills This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Measure geometry	1.1 Equipment appropriate to task is selected and checked for correct operation in accordance with manufacturers instructions and workplace procedures 1.2 Equipment is operated in accordance with manufacturers or work instructions to provide appropriate data for analysis
2 Record results	2.1 Data is recorded in a complete and accurate manner 2.2 Required documentation is completed in accordance with workplace procedures
3 Use/report data	3.1 Data is compared to maintenance/construction tolerances in accordance with workplace procedures 3.2 Results are reported in accordance with workplace procedures

Required Skills and Knowledge

REQUIRED KNOWLEDGE AND SKILLS

This describes the essential knowledge and skills and their level required for this unit.

Required knowledge:

- Relevant safety, OH&S and environmental procedures and regulations
- Track geometry parameters e.g. alignment, top, line, twist, superelevation associated with maintenance and/or construction
- Workplace procedures for the measuring and recording of track parameters
- Problems that may occur during the measurement and recording of track geometry, and action that can be taken to report or resolve the problems
- Hazards that may exist when measuring and recording track geometry, and ways of controlling the risks involved
- Relevant records procedures
- Details of local authority procedures

Required skills:

- Communicate effectively with others when measuring and recording track parameters
- Read and interpret instructions, procedures, information, plans, drawings and specifications relevant to the measurement and recording of track parameters
- Read recorded track geometry data
- Interpret and follow operational instructions

Required skills:

- Complete documentation related to the measurement and recording of track geometry
- Work collaboratively with others
- Promptly report and/or rectify any identified problems when measuring and recording track geometry in accordance with regulatory requirements and workplace procedures
- Implement contingency plans for unexpected events
- Apply precautions and required action to minimise, control or eliminate hazards that may exist during work activities
- Monitor work activities in terms of planned schedule
- Modify activities depending on differing operational contingencies, risk situations and environments
- Work systematically with required attention to detail without injury to self or others, or damage to goods or equipment
- Adapt to differences in equipment in accordance with workplace procedures
- Identify, select and use tools and equipment
- Select and use required personal protective equipment conforming to industry and OH&S standards

Evidence Guide**EVIDENCE GUIDE**

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required knowledge and skills, the range statement and the assessment guidelines for this Training Package.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

- The evidence required to demonstrate competency in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria of this unit and include demonstration of applying:
 - the underpinning knowledge and skills
 - relevant legislation and workplace procedures
 - other relevant aspects of the range statement
- Assessment must include exercises which demonstrate competent performance of the following in a range of situations:
 - using appropriate measurement tools to measure the range of geometry elements
 - accurately recording and reporting results

Context of and specific resources

- Performance is demonstrated consistently over a period

EVIDENCE GUIDE

for assessment

of time and in a suitable range of contexts

- Resources for assessment include:
 - a range of relevant exercises, case studies and/or other simulated practical and knowledge assessment, and/or
 - access to an appropriate range of relevant operational situations in the workplace
- In both real and simulated environments, access is required to:
 - relevant and appropriate materials and equipment, and
 - applicable documentation including workplace procedures, regulations, codes of practice and operation manuals

Method of assessment

- Assessment of this unit must be undertaken by a registered training organisation
- As a minimum, assessment of knowledge must be conducted through appropriate written/oral tests
- Practical assessment must occur:
 - through activities in an appropriately simulated environment at the registered training organisation, and/or
 - in an appropriate range of situations in the workplace

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance.

Operations conducted:

- by day or night
- in all weather conditions

Recording of track geometry may include measurement of:

- top, surface
- line, alignment
- twist, superelevation
- gauge
- track centres, lateral or vertical clearances

Measurement equipment may include:

- stringline and measuring rules
- gauge and superelevation boards

RANGE STATEMENT

Recording equipment may include:	• tape measures • measuring trolleys • electronic measurement devices • paper forms, notes • electronic data entry devices • paper data capture devices • electronic data capture devices
Liaison may include:	• internal or external personnel from other work areas (e.g. work teams)
Communication equipment systems may include:	• two-way radios • telephones/mobile phones • agreed audible or hand signals
Safety and personal protective equipment may include:	• high visibility clothing • hearing protection • gloves • sunscreen • sunglasses • safety glasses • insect repellent • safety headwear • safety footwear • portable radios/mobile phones • hand lamps • flags • safety devices
Depending on the type of organisation concerned and the local terminology used, workplace procedures may include:	• company procedures • enterprise procedures • organisational procedures • established procedures
Information/documents may include:	• maintenance notices, records and requests • local instructions • manufacturers or workplace equipment operation manuals • operational instructions, policies and workplace procedures • emergency procedure manuals • two-way radio/mobile phone operation procedures • conditions of service, legislation and industrial agreements including workplace agreements and awards
Applicable regulations and	• legislated rail safety requirements including acts and regulations from each applicable state and territory

RANGE STATEMENT

legislation may include:

together with any nationally approved compliance codes and/or guidelines

- relevant Australian Standards and related requirements, including AS 4292
- relevant state/territory OH&S legislation
- relevant state/territory environmental protection legislation

Unit Sector(s)

Not Applicable

Competency Field

Competency Field

B - Equipment Checking and Maintenance